

# Records of *Bombus mastrucatus* Gerstaecker, 1869 (Hymenoptera, Apidae) in the Kola Peninsula

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## Abstract

We present the records of *Bombus mastrucatus* Gerstaecker, 1869 in the Murmansk Region (Russia). We suppose that the distribution of this species in the region is probably limited to the territory from the vicinity of the town of Kandalaksha to the south of the Kola Peninsula along the Kandalaksha Gulf.

## Keywords

Bumblebees, European North, fauna, new records.

Despite the relatively long history of the study of the bumblebee fauna (Hymenoptera: Apidae: *Bombus* Latreille, 1802) in the Murmansk Region, there are still many areas of this region which, due to their inaccessibility, are lacking data on local faunas (Paukkunen and Kozlov 2015). For this reason, unexpected records of bumblebees even nowadays are possible. The first author has found *Bombus* (*Alpigenobombus*) *mastrucatus* Gerstaecker, 1869 in 2016 in the vicinity of the town of Kandalaksha – for the first time for the Kola Peninsula (Potapov et al. 2018).

*B. mastrucatus*, widespread in Europe, currently is considered as a species separate from *B. wurflenii* Radoszkowski, 1860 with a West Asian range (Williams et al. 2023). This species is typical for the mountainous regions of Scandinavia, Central Europe, Northern Spain, and the Balkans (Løken 1973; Reinig and Rasmont 1988; Rasmont et al. 2021; Williams et al. 2023).

From the regions neighboring to the Murmansk Region, the only specimen (queen) of *B. mastrucatus* in Northern Finland is known (Suomussalmi Municipality, Ruhtinansalmi Village, 30.06.1926, leg. O. Sorsakoski). On the base of this specimen, *B. mastrucatus* was included in the Finnish checklist of bumblebees by Elfving (1960, 1968). Later, it was removed from the Finnish fauna (Söderman and Vikberg 2002, Söderman and Leinonen 2003) because of the doubts on the reliability of the label data of this specimen. Recently, *B. mastrucatus* has returned to the Finnish checklist of bumblebees by Paukkunen (2021) after DNA barcoding analysis.

In this paper we present a new record of *B. mastrucatus* for the Kola Peninsula and discuss the distribution of this species in the region.

One specimen (queen) (Fig. 1) was collected in the Murmansk Region, the Tersky District, on the Turiy Cape (66°32'54.6"N, 34°33'48.9"E) (Fig. 2), the territory of the Kandalaksha Strict Nature Reserve. Leg. Oleg A. Belyaev, 21.VI.2022, during entomological-botanical excursion for biologist students (in the course of zonality field studies of Lomonosov Moscow State University). This specimen was identified (det. Grigory S. Potapov) according to Løken (1973), Rasmont et al. (2021), Williams et al. (2023). It is deposited in the Russian Museum of Biodiversity Hotspots of the N. Laverov Federal Center for Integrated Arctic Research of the Ural Branch of the Russian Academy of Sciences (Arkhangelsk, Russia).



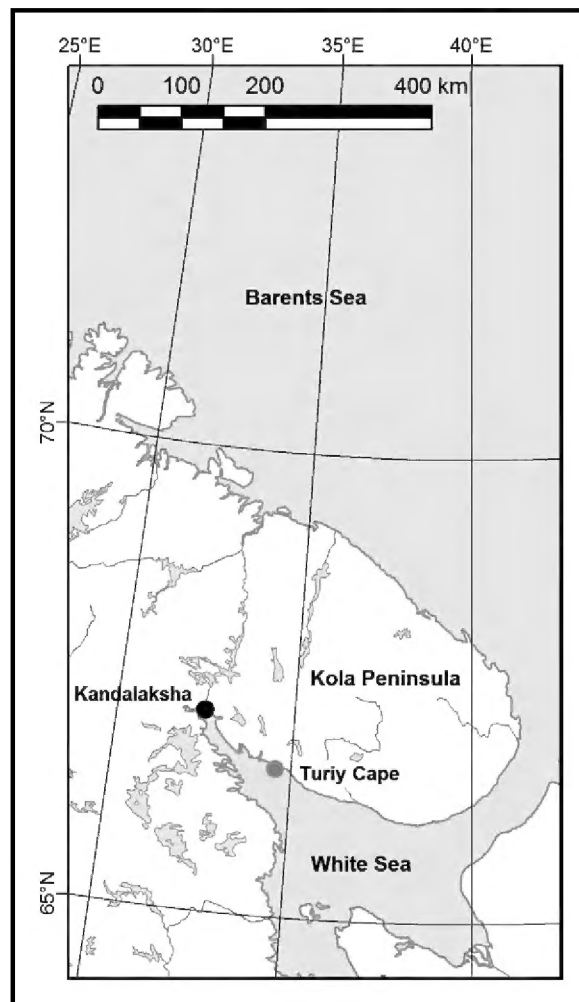
**Figure 1.** Individual and specimen of *Bombus mastrucatus* from the Kola Peninsula (Turiy Cape). Scale bar is 5 mm. Photos: O. A. Belyaev, G. S. Potapov.



**Figure 2.** Habitat of *Bombus mastrucatus* on the Turiy Cape, i.e., a dwarf shrub pine forest along the Kandalaksha Gulf. Photo: O. A. Belyaev.

A new record of *B. mastrucatus* on the Kola Peninsula was made approximately 115 km southeast from the first record of this species in this region (the vicinity of the town of Kandalaksha, the 26<sup>th</sup> and 28<sup>th</sup> of July 2016) (Fig. 3). According to European authors, *B. mastrucatus* is mainly associated with the mountain-forest zone (Rasmont et al. 2021; Williams et al. 2023). Such habitat preference explains its occurrence on the Kola Peninsula along the Kandalaksha Gulf, where forested low mountains are widely represented. In 2016 *B. mastrucatus* was collected by near a side of a road running along a pine forest (Potapov et al. 2018), in 2022 it was found in a shrubby pine forest ranging along the sea coast – habitats typical for this species.

According to the available summary of the bumblebee fauna of the Murmansk Region (Paukkunen and Kozlov 2015), it is unlikely that *B. mastrucatus* may be found in the north-west of this region and in the Khibiny Mountains, which are among the most studied areas. Our studies also confirm this assumption (Potapov and Kolosova 2011; Potapov et al. 2015). The distribution of *B. mastrucatus* in the Murmansk Region is probably restricted to the area from the vicinity of Kandalaksha to the south of the Kola Peninsula along the Kandalaksha Gulf. Further studies should be aimed to investigate its distribution and ecology in this region.



**Figure 3.** Records of *Bombus mastrucatus* in the Kola Peninsula. The first record near the town of Kandalaksha in 2016 is marked with a black dot. A red dot is the record on the Turiy Cape in 2022.

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